

What is claimed is:

1. A sector drive unit for a camera for driving sectors to open and close an aperture formed on a base plate, the sector drive unit comprising:

a first actuator for driving the sectors to open and close the aperture;

a drive force transmitting mechanism for transmitting the driving force of the first actuator to the sectors;

a sector retaining unit for retaining the sectors at a position opening the aperture and at a position closing the aperture; and

a second actuator for driving the sector retaining unit to a position to retain the sectors and to a position not to retain the sectors.

2. A sector drive unit for a camera according to claim 1; wherein the drive force transmitting mechanism comprises a drive member connected to a rotary shaft of the first actuator, and an operating member for operating the sectors in response to a driving force exerted by the drive member; and the sector retaining unit has a locking member mounted so as to be moved in or retracted from an operating area of the operating member, the locking member being configured to restrict the operation of the operating member when the locking member is moved in the operating area and to release the restricted state of the

operating member when the locking member is retracted from the operating area.

3. A sector drive unit for a camera according to claim 2; wherein the second actuator comprises an electrically energizeable actuator which is turned OFF when the sector retaining unit is at the position for retaining the sectors and turned ON when the sector retaining unit is at the position where the sectors are not retained.

4. A sector drive unit for a camera according to claim 3; wherein the second actuator includes a rotor formed of a permanent magnet and having a plurality of static stable positions within the range of one rotation of the rotor, one static stable position corresponding to the position where the sectors are retained by the sector retaining unit, and another static stable position which differs from the one static stable position corresponding to the position where the sectors are not retained by the sector retaining unit.

5. A sector drive unit for a camera according to claim 2; wherein the second actuator includes a rotor formed of a permanent magnet and having a plurality of static stable positions within the range of one rotation of the rotor, one static stable position corresponding to the position where the sectors are retained by the sector retaining unit, and another

static stable position which differs from the one static stable position corresponding to the position where the sectors are not retained by the sector retaining unit.

6. A sector drive unit for a camera according to claim 1; wherein the second actuator includes a rotor formed of a permanent magnet and having a plurality of static stable positions within the range of one rotation of the rotor, one static stable position corresponding to the position where the sectors are retained by the sector retaining unit, and another static stable position which differs from the one static stable position corresponding to the position where the sectors are not retained by the sector retaining unit.

7. A sector drive unit for a camera according to claim 1; wherein the second actuator comprises an electrically energizeable actuator which is turned OFF when the sector retaining unit is at the position for retaining the sectors and turned ON when the sector retaining unit is at the position where the sectors are not retained.

8. A sector drive unit for a camera for driving at least one sector having a diaphragm opening smaller than an aperture formed on a base plate, the sector drive unit comprising:

a first actuator for driving the sector;

a drive force transmitting mechanism for transmitting a driving force of the first actuator to the sector;

a sector retaining unit for retaining the sector at a position where the sector overlies the aperture to define a diaphragm opening of a predetermined diameter; and

a second actuator for driving the sector retaining unit to a position where the sector is not retained.

9. A sector drive unit for a camera according to claim 8; wherein the drive force transmitting mechanism comprises a drive member connected to a rotary shaft of the first actuator, and an operating member for operating the sector in response to a driving force exerted by the drive member; and the sector retaining unit has a locking member mounted so as to be moved in or retracted from an operating area of the operating member, the locking member being configured to restrict the operation of the operating member when the locking member is moved in the operating area and to release the restricted state of the operating member when the locking member is retracted from the operating area.

10. A sector drive unit for a camera according to claim 9; wherein the second actuator comprises an electrically energizeable actuator which is turned OFF when the sector retaining unit is at the position for retaining the sector and turned ON when the sector retaining unit is at the position where the sector is not retained.

11. A sector drive unit for a camera according to claim 10; wherein the second actuator includes a rotor formed of a permanent magnet and having a plurality of static stable positions within the range of one rotation of the rotor, a first static stable position corresponding to the position where the sector is retained by the sector retaining unit, and a second static stable position which differs from the first static stable position corresponding to the position where the sector is not retained by the sector retaining unit.

12. A sector drive unit for a camera according to claim 9; wherein the second actuator includes a rotor formed of a permanent magnet and having a plurality of static stable positions within the range of one rotation of the rotor, a first static stable position corresponding to the position where the sector is retained by the sector retaining unit, and a second static stable position which differs from the first static stable position corresponding to the position where the sector is not retained by the sector retaining unit.

13. A sector drive unit for a camera according to claim 8; wherein the second actuator includes a rotor formed of a permanent magnet and having a plurality of static stable positions within the range of one rotation of the rotor, a first static stable position corresponding to the position where the sector is retained by the sector retaining unit, and a second

static stable position which differs from the first static stable position corresponding to the position where the sector is not retained by the sector retaining unit.

14. A sector drive unit for a camera according to claim 8; wherein the second actuator comprises an electrically energizeable actuator which is turned OFF when the sector retaining unit is at the position for retaining the sector and turned ON when the sector retaining unit is at the position where the sector is not retained.

15. A sector drive unit for a camera for driving one or more sectors to open and close an aperture formed in a base plate, the sector drive unit comprising: a first actuator for producing a driving force; a drive force transmitting mechanism for transmitting the driving force to the one or more sectors to thereby drive same to an aperture-opening position and an aperture-closing position; a sector retaining unit driveable to a retaining position wherein the sector retaining unit releasably retains the one or more sectors in the aperture-opening position and the aperture-closing position and a non-retaining position wherein the sector retaining unit does not retain the one or more sectors; and a second actuator for driving the sector retaining unit to the retaining and non-retaining positions.

16. A sector drive unit according to claim 15; wherein the first actuator has a rotary shaft for producing a rotational driving force; the drive force transmitting mechanism has a pivotably mounted operating member responsive to the rotational driving force for driving the one or more sectors; and the sector retaining unit has a movable locking member engageable with the operating member when the sector retaining unit is in the retaining position to prevent driving movement of the operating member and disengageable from the operating member when the sector retaining unit is in the non-retaining position to allow driving movement of the operating member.

17. A sector drive unit according to claim 16; wherein the second actuator comprises an electromagnetic actuator energizeable to drive the sector retaining unit to the non-retaining position and deenergizeable to permit the sector retaining unit to be driven to the retaining position.

18. A sector drive unit according to claim 16; wherein the second actuator includes a rotor comprised of a permanent magnet having a plurality of static stable positions within the range of one rotation of the rotor, a first one of the static stable positions corresponding to the retaining position of the sector retaining unit and a second one of the static stable positions, which is different from the first static stable position, corresponding to the non-retaining position of the sector retaining unit.

19. A sector drive unit according to claim 15; wherein the first and second actuators each comprises a pulse motor.

20. A sector drive unit according to claim 15; wherein the second actuator includes a rotor comprised of a permanent magnet having a plurality of static stable positions within the range of one rotation of the rotor, a first one of the static stable positions corresponding to the retaining position of the sector retaining unit and a second one of the static stable positions, which is different from the first static stable position, corresponding to the non-retaining position of the sector retaining unit.